REMARKS

Claims 1-33 are pending in this application. Claims 1, 11, 22, 23 and 26 have been amended. The Office Action requested the amendment of Figure 1 of the drawings for the application. Claims 1-29 and 31-33 were rejected under 35 USC 102(a) as being allegedly anticipated by Morgan, US Patent Application No. 2003/0076849. Claim 30 was rejected under 35 USC 103(a) as being allegedly unpatentable over Morgan in view of Jenne, US Patent Application No. 2003/0126223.

Applicants believe that all pending claims are patentable over the prior art of record, for the reasons cited below.

Drawings

Page 1 of the Office Action alleged that Figure 1 should be designated as "prior art," because "only that which is old is illustrated." Applicant respectfully disagree (at least in part) with the Examiner's characterization of Figure 1, but have amended Figure 1 as suggested in order to expedite prosecution. A replacement drawing is filed herewith.

35 USC 102(a): Claims 1, 11, 22, 23 and 26

The Office Action indicated that independent claims 1, 11, 22, 23 and 26 were rejected under 35 USC 102(a) as being allegedly anticipated by Morgan. Applicants respectfully disagree but have amended the independent claims to expedite prosecution. Claim 1 recites:

> 1. (Currently amended) A method of allocating queues in a network device, the method comprising:
>
> **receiving a packet at an ingress port of the network device;**
>
> making a classification for an incoming packet, the classification comprising at least one of an egress port number or an ingress port number;
>
> determining whether a previously-allocated queue exists for the classification; [[and]]
>
> allocating**, at the ingress port,** a queue for the classification when no previously-allocated queue exists for the classification[[.]]**;**
>
> **storing information relating to the packet in the allocated queue; and**
>
> **after the storing step, scheduling the packet between the ingress port and one of a plurality of egress ports of the network device.**

The above amendment is supported by several sections of the specification, including Figure 2 and page 10, lines 11-14 and page 10, line 33 to page 11, line 10. Referring to the embodiment illustrated in Figure 2, page 10, lines 16-18 recite "[i]n this example, control information 206 for packet 205 is stored at the head of queue 255." Page 10, line 33 to page 11, line 10 recite:

> Within a VOQ [virtual output queue], packets are normally served in the order of arrival. As between VOQs, the flow of packets is controlled by an "arbiter" that schedules packets between the ingress ports and egress ports, using one or more arbitration algorithms. Such arbitration is necessary, for example, to match available destinations (i.e. destinations that can accept packets) with requesting sources (queues containing at least one packet). The arbitration algorithm will select from among the matching entities (e.g., in a round robin or a priority-weighted fashion) to determine which packet to serve next.

Prior art reference Morgan pertains to a dynamic queue allocation mechanism that classifies packets and stores them in queues. (See Abstract, paras. [0033] and [0036] of Morgan.) Each queue in Morgan apparently is created at a specific *egress* port. During its lifetime, the queue appears to be closely associated with its egress port and may be constrained by the amount of resources available to its egress port. Para [0037] of Morgan recites:

> In attempting to create a new queue on *a particular egress port*, the queue management module 200 determines whether enough resources are available to the port based on the port information obtained from the port manager 110. If a queue cannot be created because of resource limitation, such as for example, limits on the reserved bandwidth and/or the number of queues that may be created for a particular *egress port*, the queue management module 200 attempts to de-allocate queues of lower priority created on the port.

(Emphasis added.)

Morgan does not teach or suggest several features of claim 1. Morgan, for example, does not teach allocating a queue at an ingress port. Instead, Morgan explicitly teaches that its queues are created at specific egress ports. Additionally, Morgan does not teach or suggest applying an arbitration algorithm or other mechanism to determine which egress port a *queued* packet should belong to. Such an arrangement seems to conflict with the architecture disclosed in Morgan. Since each queue in Morgan is inherently associated with an egress port, any packet in a queue is likewise already associated with the same egress port as the queue itself. Accordingly, Morgan

could not teach or suggest allocating a queue at an *ingress* port, storing information relating to the packet in the queue and "after the storing step, scheduling the packet between the ingress port and one of a plurality of egress ports of the network device."

The aforementioned feature may benefit some embodiments of the claimed invention by providing additional flexibility. Queued packets do not have to be tied to a specific egress port. Instead, the scheduling algorithm, using a variety of criteria, may still assign queued packets to one of a plurality of egress ports.

The arguments presented above in connection with claim 1 may also be applied to independent claims 11, 22, 23 and 26. Claim 11 also recites "storing information relating to the packet in the allocated queue" and "scheduling, after the storing step, the packet between the ingress port and one of a plurality of egress ports of the network device." Claims 22 and 26 recite "storing information relating to the packet in the allocated queue" and "after the storing step, scheduling the packet between the ingress port and one of a plurality of egress ports of the network device." Claim 23 recites a processor "configured to store information relating to the packet in the allocated queue and further configured to schedule, after the storing of the information, the packet between the first ingress port and one of a plurality of egress ports of the network device." Claims 11, 22 and 26 recite "allocating, at the ingress port, a queue..." Claim 23 recites a processor configured to "allocate, at the ingress port, a queue..."

In view of the foregoing, it is respectfully submitted that independent claims 1, 11, 22, 23 and 26 are patentable over the prior art of record. It is noted that the various independent claims differ from the cited prior art in a variety of other manners as well. However, since it is believed that the cited prior art clearly does not anticipate any of the pending claims for the reasons discussed above, the other distinctions are not articulated in detail in this response.

The various dependent claims are respectfully submitted to be patentable over the art of record for at least the same reasons as set forth above with respect to their associated independent claims. Furthermore, these dependent claims recite additional features that when considered in the context of the claimed invention, further patentably distinguish the art of record.

CONCLUSION

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

The Commissioner is hereby authorized to charge any additional fees, including any extension fees, which may be required or credit any overpayment directly to the account of the undersigned, No. 50-0388 (Order No. ANDIP035).

Respectfully submitted,
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